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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,589	07/23/2003	Masakazu Furukawa	240648US0DIV	7529

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/624,589	Applicant(s) FURUKAWA ET AL.	
	Examiner Sang Y Paik	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/23/03, 2/25/04, 1/8/04, 2/2/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it contains extraneous words such as "present invention". Correction is required. See MPEP § 608.01(b).
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al (US 5,151,871) in view of Kawanabe et al (US 6,133,557) or Thimm et al (US 5,560,851).

Matsumura et al shows a hot plate with a heating element as a film deposited on an insulating substrate with the heating element having the thickness of 0.1 to 100 microns and, preferably, in the range of 0.5 to 2 microns. When the heating element is in the range of

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thickness of .5 to 2 microns, the heating element has the dispersion of less than 3 microns.

However, Matsumura does not disclose the dry process to deposit the film.

Kawanabe et al shows a hot plate heater having an insulating plate with a heating film formed on an insulating plate that is subsequently dried and fired using the sintering process to integrally form the hot plate. Thimm et al also shows a hotplate with a heating film or paste formed on an insulating plate wherein the paste is printed and dried to form the heating film thereon the insulating plate and consequently fired during the sintering process.

In view of Kawanabe et al or Thimm et al, it would have been obvious to one of ordinary skill in the art to adapt Matsumura et al with the dry process shown in Kawanabe et al to produce a hot plate with an adequately deposited heating element film or paste that can withstand a high temperature.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al in view of Kawanabe et al or Thimm et al as applied to claim 14 above, and further in view of Nakamori et al (US 4,849,605).

Matsumura et al in view of Kawanabe et al or Thimm et al shows the process claimed except RF sputtering.

Nakamori et al shows a resistive conductive film provided on an insulating plate with the RF sputtering process. In view of Nakamori et al, it would have been obvious to one of ordinary skill in the art to adapt Matsumura et al, as modified by Kawanabe et al or Thimm et al, with the RF sputtering process as an alternative process to provide a securely deposited resistive film to provide a good durability.

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7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al in view of Kawanabe et al or Thimm et al as applied to claim 14 above, and further in view of Morita et al (US 5,118,983) or Tsuruta et al (US 5,554,839).

Matsumura et al in view of Kawanabe et al or Thimm et al shows the process claimed except resistance element made of scaly noble metal powder.

Morita shows a hot plate made with a resistance element made of TiN, W as well as noble metals such as Pt with a glaze layer having the oxide and organic vehicle fused with the resistance element. Tsuruta et al shows a hot plate with a metal paste having the scaly noble metal including a noble metal such as platinum, alumina and an organic vehicle.

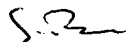
In view of Morita et al or Tsuruta et al, it would have been obvious to one of ordinary skill in the art to adapt Matsumura et al, as modified by Kawanabe et al or Thimm et al, with the heating element made of the scaly noble metals to provide a hot plate that is capable of withstanding a high thermal resistance and to further prevent cracks.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sang Y Paik
Primary Examiner
Art Unit 3742

syp